

## **WASHING DEVICE FOR WASHING THE TRANSPARENT LAYER OF THE IMAGE SENSOR PACKAGE**

### **BACKGROUND OF THE INVENTION**

#### **Field of the invention**

5           The invention relates to a mechanism for cleaning a transparent layer of an image sensor, and in particular to a mechanism for efficiently and quickly cleaning a transparent layer, so as to increase the production yield.

#### **Description of the Related Art**

Referring to FIG. 1, a conventional image sensor includes a substrate 10, a  
10   frame layer 18, a photosensitive chip 26, a plurality of wires 28, and a transparent layer 34. The substrate 10 has a first surface 12 on which a plurality of signal input terminals 15 is formed, and a second surface 14 on which a plurality of signal output terminals 16 is formed. The frame layer 18 has an upper surface 20 and a lower surface 22 adhered to the first surface 12 of the substrate 10 to form a  
15   chamber 24 together with the substrate 10. The photosensitive chip 26 is arranged within the chamber 24 and is mounted to the first surface 12 of the substrate 10. Each wire 28 has a first terminal 30 and a second terminal 32. The first terminals 30 are electrically connected to the photosensitive chip 26, and the second terminals 32 are electrically connected to the signal input terminals 15 of the  
20   substrate 10. The transparent layer 34 is adhered to the upper surface 20 of the frame layer 18.

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In order to finish the above-mentioned package processes, the transparent layer<sup>34</sup> 10 has to be efficiently cleaned, so as to decrease the particle. Then the tradition method of cleaning the transparent layer is by operator myself cleaning. Thus it is difficult to quickly clean the transparent layer and the cleaning quality  
5 can not efficiently control. Therefore, the quality of the image sensor is influenced.

### SUMMARY OF THE INVENTION

An object of the invention is to provide a mechanism for cleaning a transparent layer of an image sensor, wherein the transparent layer may be cleaned  
10 and quickly cleaning a transparent layer, so as to increase the production yield.

To achieve the above-mentioned object, the invention provides a mechanism for cleaning a transparent layer of an image sensor, the transparent layer having an upper surface and a lower surface, the mechanism includes a transport device for transporting the transparent layer. A first positioned device is arranged under the transport device to position the lower surface of the transparent layer. A first  
15 cleaning device is arranged onto the transport device for cleaning the upper surface of the transparent layer. A second positioned device is arranged onto the transport device to position the upper surface of the transparent layer. A second cleaning device is arranged under the transport device for cleaning the lower  
20 surface of the transparent layer.

### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a cross-sectional view showing a conventional image sensor.

FIG. 2 is a first schematic illustration showing a mechanism for cleaning a transparent layer of an image sensor of the present invention.

FIG. 3 is a second schematic illustration showing a mechanism for cleaning a transparent layer of an image sensor of the present invention..

5                   **DETAILED DESCRIPTION OF THE INVENTION**

Please refer to FIGS. 2. A mechanism for cleaning a transparent layer of an image sensor of the present invention includes a transport device50, a first positioned device52, a first cleaning device54, a second positioned device56, and a second cleaning device58. Wherein the transparent layer40 has an upper surface  
10   42 and a lower surface44.

The transport device50 is for transporting the transparent layer40.

The first positioned device52 is arranged under the transport device50, while the transparent layer40 is arranged on the transport device50, the first positioned device52 attracts the lower surface44 of the transparent layer40 by  
15   a vacuum pump to position the lower surface44 of the transparent layer40.

The first cleaning device54 is a water knife, is arranged onto the transport device50, while the first positioned device52 attracts the transparent layer40, the first cleaning device54 cleans the transparent layer40 by water.

Please refer to FIG.3. The second positioned device56 is arranged onto  
20   the transport device50 to attract the upper surface42 of the transparent layer40 by a vacuum pump.

The second cleaning device<sup>58</sup> is a water knife, is arranged under the transport device<sup>50</sup> for cleaning the lower surface<sup>44</sup> of the transparent layer<sup>40</sup> by water.

While the invention has been described by way of an example and in terms  
5 of a preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiment. To the contrary, it is intended to cover various modifications. Therefore, the scope of the appended claims should be accorded the broadest interpretation so as to encompass all such modifications.